Points for Packers.

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COMPLIMENTS OF
THE WARFIELD MANUFACTURING CO.
BALTIMORE.



Points for

Packers.

THE WARFIELD MANUFACTURING CO.

BALTIMORE.

17.60

Entered according to Act of Congress in the year 1891,

By S. D. WARFIELD,

Washington, D. C.

friends in the Canning trade, we hope the information herein contained will be of service in the conduct of their business.

It has been our aim to give in condensed form various facts and figures which will serve as a basis for such calculations as the packer is from time to time required to make.

In order that the book may be complete, we give the business cards of several firms, well-known in their particular line, and where such articles as are used in the manufacture of canned goods may be procured.

Also the cards of several houses, whose large experience in the sale of canned goods is a guarantee of the best results to the packer.

Very truly,

THE WARFIELD MANUFACTURING CO.

... The Canned Goods ... Exchanges and Associations of the Country



The Baltimore Canned Goods Exchange.

The Canned Goods Exchange of San Francisco.

The Cannel Goods Packers' Association of New York State.

The Western Packers' Canned Goods Association.

The Virginia Fruit and Vegetable Packers' Association.

The New Jersey Fruit and Vegetable Packers' Association.



The National Association of Canned Food Fackers.

The Canadian Canned Goods Packers' Association.



The Packing Season.

The fruit and vegetable packing season begins in May and continues until about October, the various articles being packed in about the following order:

Early June Peas, Pineapples, Strawberries, Gooseberries, String Beans, Cherries, Marrowfat Peas, Raspberries. Whortleberries, Blackberries,
Green Gages,
Damsons,
Tomatoes,
Peaches,
Pears,
Lima Beans,
Corn,
Apples

The Oyster Season

RUNS FROM OCTOBER UNTIL APRIL.



Peas.

Peas for canning are divided into two classes, viz: "Early Junes" and "Marrowfats."

The Maryland factories open on Early Junes about June 1 and continue until Marrowfats begin—about June 20.

"Early Junes" are planted about the middle of April: "Marrowfats" about two weeks later.

The number of peas raised per acre varies very much—Early Junes producing from 20 to 75 bushels per acre, shelling out from 14 to 16 cans per bushel; Marrowfats, 35 to 90 bushels per acre, shelling out from 12 to 16 cans per bushel.

Peas are packed in 2-lb. cans exclusively.

Sugar Corn.

The planting of Sugar Corn for canning in Maryland begins about May 1st, and continues at intervals until about June 20th. "Stowell's Evergreen" being the favorite variety.

A fair *average* for a crop of sugar corn is about 55 to 65 cases per acre; as high as 150 cases,

however, are produced on a single acre.

About 2½ tons per acre (weighed in the husk) is a fair average for a crop taken all through. As high as six tons, however, are grown on a single acre.

The Maryland factories open on corn about the middle of August and close with the advent

of frost.

Corn is packed in 2-lb. cans exclusively.

Tomatoes.

The Maryland factories open on tomatoes about August 15th, and continue until frost kills the vines.

The seed is sown first part of April, the plants set out about the middle of May. The "New Queen," "Paragon" and "Acme" are among the favorite varieties for canning.

A fair average for a crop of tomatoes is about 200 to 250 bushels per acre. As high as 600 bushels can be produced on a single acre.

A bushel of good, sound tomatoes, will fill

from 15 to 20 3-lb. cans.

Tomatoes are packed in 2 and 3-lb. cans; principally 3-lb.

Peaches.

The factories in Maryland open on peaches in August and close last of September.

Peaches are divided into "Extras," "Stand-

ards," "Seconds" and "Pie Fruit."

One bushel of peaches will yield from 14 to 20 3-lb. cans, according to quality of fruit and grade desired.

Peaches are packed in 2 and 3-lb. cans, mostly 3-lb.

Pineapples.

The Pineapple season opens in Maryland first of May.

They are packed only by the city factories. One dozen pineapples will fill from 9 to 11 cans.

Pineapples are packed in 2-lb cans exclusively.



Berries.

Berries are packed as the fruit matures, in 2-lb, cans.

An ordinary water bucket filling some 18 cans.

String Beans.

String Beans are packed along about June and July, and September and October.

One bushel will fill from 30 to 35 cans. Packed in 2-lb. cans exclusively.



Lima Beans.

Lima Beans are packed during September and October.

One bushel will fill some 40 to 60 cans. Packed in 2-lb, cans.

Pears.



The packing of Pears is confined almost exclusively to the city factories, and they are put up at intervals as the crop is brought to market.

One bushel of Bartlett pears will fill about 32

2-lb. cans.

One bushel of small pears will fill about 50 2-lb. cans.

Packed in 2 and 3-lb. cans.



Apples.



Apples are packed as the crop matures, in 2-lb., 3-lb. and gallon cans.

One flour barrel will fill 10 doz. 2-lb., 6 doz.

3-lb. or 2 doz. gallon cans.

Oysters.

The factories open in Maryland for steaming oysters about October and close about April.

One bushel of oysters will shuck out from 35 to 60 ounces of meat.

Oysters are packed in 1 and 2-lb. cans. Also in half-gallon and gallons.

The Standard of the Baltimore Panned Goods Exchange.

6.50

Apples.—Pared and cored, clear in color, cans to be full of fruit, put up in water.

Blackberries.—Cans to cut out not less than twothirds full after draining; fruit to be sound, put up in water.

Cherries.—White Wax. Cans to be full of fruit, free of specks and decay, put up in not less than ten degrees of cold cane sugar syrup.

Cherries.—Red. Cans full of fruit, free of specks or decay, put up in water.

Gooseberries.—Cans to cut out not less than twothirds full after draining, fruit unripe and uncapped, put up in water.

Egg Plums and Green Gages.—Cans full, whole fruit, free from reddish color or specks, put up in not less than ten degrees of cold cane sugar syrup.

Warfield's Complete Canning House Machinery,

Peaches.—Cans full, fruit good size, evenly pared, cut in half pieces, put up in not less than ten degrees of cold cane sugar syrup.

Pie Peaches.—Cans full, fruit sound, unpared, cut in half pieces, put up in water.

Pears.—Bartlett. Cans full, fruit white and clear, pared, cut in half or quarter pieces, put up in not less than ten degrees of cold cane sugar syrup.

Pears.—Bell or Duchess. Cans full, fruit pared, cut in half or quarter pieces, put up in not less than ten degrees of cold cane sugar sprup.

Pine Apples.—Cans full, fruit sound and carefully pared, slices laid in evenly, put up in not less than ten degrees of cold cane sugar syrup.

Plums and Damsons.—Cans full, sound fruit, put up in water.

Quinces.—Cans full, fruit pared and cored, cut in half or quarter pieces, put up in not less than ten degrees of cold cane sugar syrup.

Raspberries.—Cans to cut out not less than twothirds full after draining, fruit to be sound, put up in not less than ten degrees of cold cane sugar syrup.

Warfield's Complete Canning House Machinery.

Strawberries.—Cans to cut out after draining not less than half full of fruit, which shall be sound and not of the varieties known as seedlings, put up in not less than ten degrees of cold cane sugar syrup.

Whortleberries.—Cans full, fruit to be sound, put up in water.

VEGETABLES.

Lima Beans. — Cans full of green beans, clear liquor.

String Beans.—Cans full, beans young and tender and carefully strung, packed during growing season.

Corn.—Sweet corn only to be used, cut from the cob while young and tender, cans to cut out full of corn.

Peas.—Cans full of young and tender peas, free of yellow or black eyes, liquor clear.

Pumpkin.—To be solid packed as possible, free from lumps and of good color.

Ranned Goods Caw of Maryland

INCORPORATED BY THE GOVERNOR, APRIL 7TH, 1886.

SECTION I.—Be it enacted by the General Assembly of Maryland, That it shall be unlawful in this State for any packer of or dealer in hermetically canned or preserved fruits, vegetables or articles of food (excepting ovsters), to sell such canned or preserved fruits. vegetables or other articles of food aforesaid, unless the cans, jars or vessels which contain the same shall bear the name and address of the person, firm or corporation that canned or packed the article, or the name of the dealer who purchases the same from the packer or his agent; such name and address shall be plainly printed on the label in letters not less than threesixteenths of an inch in height and one-eighth of an inch in breadth, together with a brand-mark or term indicating clearly the grade or quality of the article contained therein.

Sec. 2.—And be it enacted, That all packers and dealers in "Soaked Goods," put up from products dried or cured before canning or sealing, shall in addition to complying with the provisions of section one of this Act, cause to be printed plainly diagonally across the face of the label in good legible type, one-half of an inch in height and three-eighths of an inch in width, the words "Soaked Goods."

SEC. 3.—And be it enacted, Any person, firm or corporation violating any of the provisions of this Act shall be deemed guilty of a misdemeanor and fined not less than fifty dollars nor more than one thousand dollars, to be recovered by indictment in any court in this State having criminal jurisdiction, one-half of said fine to be paid to the informer and the other half to the State Treasury, as other fines are paid.

Sec. 4.—This Act shall take effect from November 1, 1886.



New York Qanned Goods Bill.

6:5:0

Chapter 269.—An Act in relation to canned or preserved food; passed May 12, 1885; three-fifths being present. The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section i.—It shall hereafter be unlawful in this State for any packer of or dealer in hermetically sealed, canned or preserved fruits, vegetables or other articles of food, to sell or offer such canned or preserved articles for sale, for consumption in this State, after January i, eighteen hundred and eighty-six, unless the cans or jars which contain the same shall bear the name, address and place of business of the person, firm or corporation that canned or packed the article so offered, or the name of the wholesale dealer in this State who sells or offers the same for sale; together in all cases with the name of the State, county and city, town or village, where the same were packed, plainly printed thereon, preceded by the words "Packed at."

Such name, address and place of business shall be plainly printed on the label, together with a mark or term indicating clearly the grade or quality of the article contained therein.

SEC. 2.—All packers of and dealers in soaked goods or goods put up from products dried or cured before canning, shall in addition to complying with the provisions of section one of this act, cause to be plainly branded on the face of the label in good legible type, one-half of an inch in height and three-eighths of an inch in width, the word "Soaked."

Sec. 3.—All goods packed prior to the passage of this act, and all goods imported or to be imported from foreign countries of foreign manufacture, are exempted from the provisions of this act.

SEC. 4.—Any packer or dealer who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor, and punished by a fine of not more than fifty dollars for each offense in the case of retail dealers, and in the case of wholesale dealers and packers by a fine of not less than five hundred dollars nor more than one thousand dollars for each offense.

Warfield's Complete Canning House Machinery.

The terms "packer" and "dealer" as used in this act shall be deemed to include any firm or corporation doing business as a dealer in or packer of the articles mentioned in this act. It shall be the duty of any board of health in this State cognizant of any violation of this act to prosecute any person, firm or corporation which it has any reason to believe has violated any of the provisions of this act, and the court or officer receiving the fine under any conviction under this act, after deducting the cost of trial, shall pay the same over to the board of health prosecuting the case. In case such offense is not prosecuted by any board of health, the fine received shall be disposed of in the manner now provided for.



STANDARD SIZES FOR CANS.

ADOPTED BY THE BALTIMORE CANNED GOODS EXCHANGE NOVEMBER 18TH, 1883.

	Diameter.	Height.
No. 1 Cans	2¾ in.	4 in.
No. 2 Cans	316 in.	$4\frac{9}{16}$ in.
No. 3 Cans	418 in.	47/s in.
No. 6 Cans		
No. 10 Cans	6¼ in.	7 in.

Warfield's Complete Canning House Machinery.

STANDARD SIZES OF BOXES.

SIZES OF BOXES FOR CANNED GOODS, INSIDE MEASUREMENT.

SIZES OF TIN PLATE USED IN CANMAKING.

I. C. 14x	20, Coke	B	. V. Grade.
I. C. 12X	:12, Coke	B	. V. Grade.
I. C. 13x	26, Coke	B	. V. Grade.
I. C. 14x	20	I	. B. Grade.
I. C. 13x	20		Charcoal.



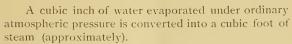
SHIPPING WEIGHTS FOR CANNED GOODS.

.....

No.	Ι	Boxes26 poun	ids.
No.	2	Boxes46 pour	ids.
No.	3	Boxes70 pour	ids.

Warfield's Complete Canning House Machinery.

STEAM.



Steam at atmospheric pressure flows into a vacuum at the rate of about 1,550 feet per second, and into the atmosphere at the rate of 650 feet per second.

27,222 cubic feet of steam weigh 1 lb; 13,817 cubic feet of air weigh 1 lb.

The best designed boilers, well set, with good draft and skillful firing, will evaporate from 7 to 10 lbs. of water per lb. of first-class coal. The average result is from 25 to 60 per cent. below this.

In calculating horse-power of tubular or flue boilers, consider 15 square feet of heating surface equivalent to one nominal horse-power.

One square foot of grate will consume on an average 12 lbs. of coal per hour.

Locomotives average a consumption of 3000 gallons of water per 100 miles run.

WEIGHT AND COMPARATIVE FUEL VALUE OF WOOD

.........

One cord air-dried hickory or hard maple weighs about 4500 lbs., and is equal to about 2000 lbs. coal.

One cord air-dried white oak weighs about 3850 lbs., and is equal to about 1715 lbs. coal.

One cord air-dried beech, red oak or black oak weighs about 3250 lbs., and is equal to about 1450 lbs. coal.

One cord air-dried poplar, chesnut or elm weighs about 2350 lbs., and is equal to about 1050 lbs. coal.

One cord air-dried average pine weighs about 2000 lbs., and is equal to about 925 lbs. coal.

From the above it is safe to assume that 2¼ lbs. of dry wood is equal to 1 lb. average quality of soft coal, and the fuel value of the same <code>weight</code> of different woods is very nearly the same—that is, a pound of hickory is worth no more for fuel than a pound of pine, assuming

Warfield's Complete Canning House Machinery.

both to be dry. It is important that the wood be dry, as each 10 per cent. of water or moisture in wood will detract about 12 per cent. from its value as fuel.

WATER.—About 30 feet is the practical limit to which water can be raised by suction. Doubling the diameter of a pipe increases its capacity four times. friction of liquids in pipes increases as the square of the velocity.



RULES FOR CALCULATING THE SPEED OF PULLEYS AND GEARS.



In calculating for gears, multiply or divide by the number of teeth as may be required. In calculating for pulleys, multiply or divide by their diameter in inches.

The driving wheel is called the *Driver*, and the driven wheel the *Driven*.



TO FIND THE DIAMETER OF THE DRIVING PULLEY.



Multiply the diameter of the driven pulley, in inches, by its required number of revolutions, and divide this product by the number of revolutions of the driver. The quotient will be the diameter of the driving pulley in inches.

Warfield's Complete Canning House Machinery.

TO FIND THE DIAMETER OF THE DRIVEN PULLEY.



Reverse the above operation, multiplying together diameter of driving pulley and its number of revolutions, and dividing product by required number of revolutions of driven. The quotient will be the diameter of the driven pulley.



TO FIND THE NUMBER OF REVOLUTIONS OF THE DRIVEN PULLEY.



Multiply the diameter of the driver by its number of revolutions, and divide the product by the diameter of the driven pulley. The quotient will be the number of revolutions of the driven pulley.

THE WARFIELD MANUFACTURING CO.

ISSUES AN

ILLUSTRATED CATALOGUE

GIVING CUTS AND FULL . . DESCRIPTION OF . .

COMPLETE CANNING HOUSE OUTFITS,

AND A

REFERENCE BOOK,

CONTAINING
VALUABLE INFORMATION
..FOR..

PACKERS OF FRUITS,

VEGETABLES AND

OYSTERS.

PIRECTORY

Giving names of leading firms engaged in supplying the Packer with various articles necessary to the business.

CANS. R. TYNES SMITH CAN CO......Baltimore. KIRWAN & TYLER.....Baltimore.

CASES.

J. H. THIEMEYER & CO.... Baltimore.

LABELS.

THE CHESAPEAKE LABEL CO......Baltimore.

SOLDER.

R. OPPENHEIMER & SONS.......Baltimore.
R. TYNES SMITH CAN CO.....Baltimore.
KIRWAN & TYLER.....Baltimore.

TIN PLATE.

DANIEL G. TRENCH & CO..... Chicago. C. S. TRENCH & CO..... Baltimore and New York.

MACHINERY.

THE WARFIELD MANUF'G CO..... Baltimore.

PIRECTORY.

Giving names of Leading Firms engaged in selling Canned Goods.

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C. S. TRENCH & CO..... Baltimore and New York. DANIEL G. TRENCH & CO..... Chicago.

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OUTSIDE SOLDERED As Preferred.

SOLDER-CREASE CANS,

SOLDER IN WIRE, STICK OR DROP.



R. TYNES SMITH CAN CO.

BALTIMORE, MD.

KIRWAN & TYLER,

1409 EASTERN AVENUE, BALTIMORE, MD.

OYSTER ::: GANSI

OUR PERFECTION FLUID IS THE BEST PREPARATION ON THE MARKET FOR CAPPING.

CASES.

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SOLDER.

Correspondence solicited.
All enquiries promptly answered.

SEND FOR DESCRIPTIVE CIRCULAR OF OUR CAN TESTER.



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FRUIT, VEGETABLE Nº OYSTER
BOXES,

PRINTED AND PLAIN.

NAILED AND KNOCKED DOWN.

Special Prices on Shooks.



R. Oppenheimer & Sons,

MANUFACTURERS OF

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Baltimore.



Tin Plate,
Pig Iron,
Pig Lead,
Antimony,
Spelter.

Type and Babbitt Metal.
Soldering Coppers.
Soldering Machines.
Muriatic Acid.
Rosin, &c.

Daniel G. Trench & Co.

BROKERS.

CANNED GOODS ON TIN PLATE ON THE SECANS

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CANNERS' SUPPLIES OF ALL KINDS.

31 Eake St., Chicago, III.

C. S. TRENCH & CO.

17 P. O. AVE.

BALTIMORE.

BROKERS IN

TIN PLATES, CANS, CANNED GOODS.

C. S. TRENCH & CO.

54 CLIFF ST.

NEW YORK.

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FRUIT, VEGETABLE AND OYSTER PACKERS' MACHINERY.

MOST COMPLETE LINE MANUFACTURED.

Boilers, (Horizontal and Vertical) Steam Engines,
Steam Boxes.

Oyster Cars and Cross Trucks.

Shriver Patent Process Kettles, (Sole Manuf'rs,)

Open Process Kettles, all sizes,

Process Crates, Dipping Crates,

Platform Trucks, Crane Fixtures,

Gasoline and Kerosene Fire Pots,

Tanks, Pumps, Gauges, &c.

Warfield's Patent Corn Cutting Machine.

" " Silking "
" Dipping Machine.
" Exhausting "
" Test "
" Tomatoe Scalder,

Patent Pea Hullers and Separators,
Steam Pumps, Injectors and Ejectors,
Steam Guages, Thermometers, Capping Irons,
Forging Stakes. Coppers, Pipe, Fittings. Valves,
&c., &c.

SEND FOR ILLUSTRATED CATALOGUE.

CAN MAKING MACHINERY

OF EVERY DESCRIPTION.

→ BOILERS -

RETURN TUBULAR. LOCOMOTIVE. UPRIGHT.

Our Boilers are built of the best material throughout and we are prepared to furnish either of the above styles, *promptly*.

*STEAM * ENGINES *

HORIZONTAL.

We carry in stock such sizes of Engines as the packer requires, and can make prompt shipments.

We frequently have second-hand Boilers and Engines on hand, which can be purchased at *low rates*.

SHAFTING, HANGERS, PULLEYS, &c.

ELECTRIC LIGHT PLANTS

1 FOR C

CANNING FACTORIES.

6:5:0

We are prepared to furnish a most complete system for lighting canning factories by electricity, and under which both arc and incandescent lamps are burned on the *same wires*.

The current supplying these lamps is of *low tension*, consequently it is *perfectly harmless*, and the wires can be *handled with impunity*.

We shall be glad to answer any inquiries regarding our system of lighting, and you will be surprised how cheaply you can be supplied with a complete Electric Light Plant.













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